

**PATENT**  
Attorney Docket No. UCSD-06783

**AMENDMENTS TO THE CLAIMS**

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1-36. (canceled)

37. (currently amended) A method of identifying a therapeutic lead compound that modulates activity of a cytoskeletal system, said method comprising:

- i) providing an assay mixture comprising a first component of said cytoskeletal system and a second component of said cytoskeletal system, wherein said cytoskeletal system is a microtubule system, and wherein said first component comprises a kinesin motor protein and said second component comprises a tubulin protein that specifically bind to each other;
- ii) contacting said assay mixture with a test compound to be screened for the ability to inhibit or enhance binding between said first component and said second component;
- iii) detecting a change in coupling between ATP hydrolysis and force generation; wherein said change indicates that said test compound modulates activity said cytoskeletal system.

38-69. (canceled)

70. (previously presented) The method of claim 37, further comprising step iv) testing said test compound on a variety of ATPases.

71. (previously presented) The method of claim 37, wherein said assay mixture comprises a cell lysate.

72. (currently amended) The method of claim 37, wherein ~~said~~ at least 50 test compounds are screened simultaneously.

73. (currently amended) The method of claim 37, wherein said test compound which is identified is a lead therapeutic for animal or human disease.

74. (new) The method of claim 70, wherein said variety of ATPases comprises CENP-E.

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75. (new - withdrawn) The method of claim 70, wherein said variety of ATPases comprises kinesin.

76. (new - withdrawn) The method of claim 70, wherein said variety of ATPases comprises TI-gamma.